Maryland Energy
ADMINISTRATION
Powering Maryland's Future

Maryland State Energy Investment Fund

Clean Energy Accomplishments

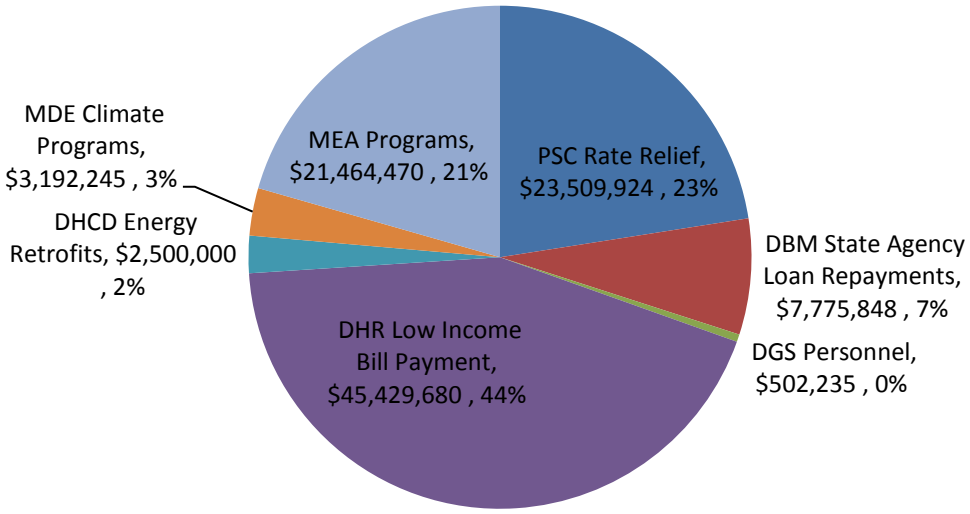
FY 2009 and 2010

MEA State Energy Investment Fund Accomplishments FY09 and FY10

EXECUTIVE SUMMARY

The Maryland Energy Administration (MEA) has been following its mission to promote affordable, reliable and clean energy using monies from the state Strategic Energy Investment Fund (SEIF). As part of Governor's O'Malley "Smart, Green and Growing" initiative, these programs have helped reduce household bills, create new green collar jobs, address global climate change, and promote energy independence.

In FY09 and FY10, the SEIF funds were allocated as follows:



In total, the over $100 million in investments made by MEA and its partners in FY 09 and FY 10 resulted in numerous benefits for Marylanders.

- *To save Maryland households and businesses money:*
  - MEA spent $16.5 M on energy efficiency programs that:
    - will save Marylander's $68.3 M over the life of the investments
    - created 150 jobs
    - avoided CO2 emissions equivalent to removing 3,474 cars from the road
    - retrofitted over 3,000 low-income apartments
    - gave grants to over 7,500 local governments and non-profits
    - helped over 350 farms
    - trained over 900 people for careers in energy efficiency
    - helped Marylanders purchase nearly 5,000 energy efficient appliances
  - The Maryland Department of Housing and Community Development (DHCD) spent $2.5 M for home retrofits and weatherization
  - The Maryland Department of General Services (DGS) spent over $500,000 to pay personnel costs
  - The Maryland Department of Budget and Management spent $7.8 M to make repayments on state agency loans

MEA State Energy Investment Fund Accomplishments FY09 and FY10

- *To encourage adoption of renewable energy, promote energy awareness and address climate change:*
  - MEA spent $4.9 M on renewable energy and education programs that:
    - Helped 820 Maryland families buy solar, wind and geothermal systems
    - Saved approximately 4,000 MWH of traditional power
    - Reached Marylanders through large-scale and grass-roots media campaigns, increasing understanding of simple, no and low-cost energy changes Marylanders can undertake.
  - The Maryland Department of the Environment (MDE) spent $3.2 M conducting research and implementing measures to help the state reduce its carbon footprint.

- *To provide residential rate relief,* $23.5M was distributed through the Public Service Commission and utilities to provide Maryland's nearly 5.7 million citizens an average credit on their utility bills of $0.17 per month.

- *To help low income households pay electricity bills and arrearages,* the Maryland Department of Human Resources used $45.4M to assist over 50,000 households to pay current and past energy bills, paying an average benefit of $817 per household.

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MEA PROGRAMS

A. Multi-Family Housing Retrofits for Low and Moderate Income Families

SEIF Budget: $1.72 M (FY10)

A significant portion of low and moderate income families are renters, yet apartments and condominiums have not been included in the traditional weatherization programs. Through the Multi-Family Energy Efficiency Housing Affordability (MEEHA) Program, MEA, in coordination with the Department of Housing and Community Development (DHCD) and housing nonprofit organizations, conducts energy efficiency retrofits in apartment units to reduce energy bills for low and moderate income families.

Beneficiaries

Residential customers in multi-family buildings who are responsible for their utility bill or properties who pay the utility bill for low and moderate income Maryland residents

The Way it Works

The program focuses primarily on apartment buildings undergoing significant rehabilitation efforts as well as properties needing energy efficiency upgrades. Recruitment of potential buildings is conducted through DHCD and other existing state and local affordable housing agencies, utilities, and building management associations. MEA leverages funds with DHCD to pay a portion of incremental cost for energy efficiency measures for new or rehabilitated multifamily buildings already undergoing DHCD rehabilitation. MEA pays up to $2,500 per unit, with a cap of $500,000 per project. In fiscal year 2010, $200,000 was set aside for the MacArthur Foundation Green Grant program, which funds energy audits in multifamily buildings in BRAC counties.

FY 09 Accomplishments

This was a new program launched in FY10.

FY 10 Accomplishments

The first projects closed in November 2009. Two projects were awarded funding to improve energy efficiency and twenty audits were funded. Another seven audits were funded under the Green Grant program.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

MEEHA PROJECTS				
Recipient	**City/County**	**Activity Funded**	**Units Served**	**Fund Amount**
Gilbert Highlands	Takoma Park, Montgomery	Measures	21	$52,500
Guilford Gardens	Columbia, Howard	Measures	269	$259,315
Park View at Rosedale	Rosedale, Baltimore	Audit	109	$4,800
Park View at Bladensburg	Bladensburg, Prince George's	Audit	102	$4,800
Park View at Randallstown	Randallstown, Baltimore	Audit	103	$4,800
Hickory Ridge	Columbia, Howard	Audit	108	$4,800
College Parkway Place	College Park, Prince George's	Audit	170	$6,000
Woodland Springs	District Heights, Prince George's	Audit	506	$7,000
Hope House	Crownsville, Anne Arundel	Measures	22	$18,281
Bay Forest	Annapolis, Anne Arundel	Audit	120	$305,900
Glen Forest	Glen Bernie, Anne Arundel	Audit	100	$255,600
Corner House	Havre de Grace, Harford	Audit	20	$52,800
Lansdowne Gardens	Lansdowne, Baltimore	Audit & Measures	167	$6,700
Bay Ridge	Annapolis, Anne Arundel	Audit & Measures	198	$338,234
Coursey Station	Halethorpe, Baltimore	Audit & Measures	49	$113,345
St Marks	Catonsville, Baltimore	Audit & Measures	20	$24,546
St Charles	Pikesville, Baltimore	Audit & Measures	24	$51,787
Park View at Columbia	Columbia, Howard	Audit	104	$5,200
Summer Ridge	Landover, Prince George's	Audit	276	$5,174
Sienna Creek	Adelphi, Prince George's	Audit	229	$5,099
Sienna Gardens	Adelphi, Prince George's	Audit	56	$2,932
Arbor Vista	Adelphi, Prince George's	Audit	390	$5,606
Lafayette	Havre de Grace, Harford	Audit & Measures	14	$29,700
Other Pending Locations		Audit & Measures	0	$155,081
		Totals =	3,177	$1,720,000

MEA State Energy Investment Fund Accomplishments FY09 and FY10

Return on Investment

The investment in this program yielded $294,150 in annual direct energy savings to consumers. Energy savings from this project typically ranged from 15 to 25 percent per housing unit or complex. In addition to reducing monthly energy bills for 3,177 families, this program helped create 28 energy rehabilitation jobs.

Program Goal	FY 09 Results	FY 10 Results	Total Results to Date
Annual reduction in electricity consumption*	n/a	6,538 MWh	6,538 MWh
Annual reduction in natural gas consumption*	n/a	18.7 mmcf	18.7 mmcf
Savings equivalent to the electricity consumption of X number of MD homes per year	n/a	527 homes	527 homes
Savings equivalent to the natural gas consumption of X number of MD homes per year	n/a	244 homes	244 homes
Annual cost savings Life Cycle cost savings	n/a	$1.24 million per year $18.56 million over 15 years	$1.24 million per year $18.56 million over 15 years
Carbon Dioxide Emissions Avoided	n/a	4,393 metric tons	4,393 metric tons
Equivalent to cars off the road	n/a	847 cars	847 cars
Participants	n/a	3,177 units	3,177 units
Jobs Created/Retained**	n/a	28 jobs	28 jobs

*Energy savings were calculated based on actual reported estimates.

** Jobs created/retained were calculated using a formula from the EPA Rapid Deployment for Energy Efficiency Toolkit: http://www.epa.gov/cleanenergy/documents/suca/rdee_toolkit.pdf. The formula estimates that an average of 16.5 jobs are created or retained for every million dollars spent on home retrofits.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

B. Jane E. Lawton Conservation Loan Program

SEIF Budget: $ 2.3 million (FY 09)
$ 1 million (FY 10)
$ 3.3 million (Total)

The Jane E. Lawton Conservation Loan Program allow non-profits, local governments and businesses to finance energy projects and make loan repayments using avoided energy costs.

Beneficiaries

Non-profits, local governments and businesses.

The Way It Works

Named for the late Delegate Jane E. Lawton, a tireless advocate for energy efficiency and protecting our natural resources, the Lawton Loan Program provides below market loans to local governments, nonprofits and businesses for energy efficiency improvements. As those loans are repaid, MEA reloans the money to new recipients, ensuring that the Lawton SEIF funds continue to benefit Marylanders for many years to come.

FY 09 Accomplishments

In FY 2009, SEIF funds allowed MEA to award 5 Lawton loans to eligible borrowers:

2009 LAWTON LOANS		
Recipient	**City/County**	**Loan Amount**
Johns Hopkins University	Baltimore	$264,655
Somerset County Gov't	Princess Anne/Somerset	$300,000
Baltimore Medical System	Baltimore	$768,850
City of Salisbury	Salisbury/Wicomico	$258,740
American Visionary Art Museum	Baltimore	$60,000
	Total	$1,898,227

MEA State Energy Investment Fund Accomplishments FY09 and FY10

FY 10 Accomplishments

In FY 2010, MEA awarded 4 Lawton loans to eligible borrowers:

2010 Lawton Loans		
AGENCY NAME	**City/County**	**LOAN AMOUNT**
City of Salisbury	Salisbury/Wicomico	$142,800
Talmudical Academy of Baltimore	Baltimore	$150,000
S. Freedman & Sons	Landover/Prince George's	$500,000
Micropore Inc.	Elkton/Cecil	$58,621
	Total	$851,421

SEIF Lawton funds that were not awarded in FY 09 and 10 will likely be awarded in FY 11.

Return on Investment

Lawton loans in FY 2009 and 2010 created 13 jobs and saved 5,088 MWhs. The cumulative total over the lifetime of the installed energy measures from the loans made in FY 2009 and 2010 is projected to be over $10 million.

Program Goal	**FY 09 Results**	**FY 10 Results**	**Total Results**
Annual reduction in energy consumption*	1,893 MWh equivalent	923 MWh equivalent	2,816 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	153 homes	74 homes	227 homes
Annual cost savings Life Cycle cost savings	$ $227,160 per year $ 3.4 million over 15 years	$ $110,760 per year $ 1.7 million over 15 years	$ 337,920 per year $ 5.1 million over 15 years
Carbon Dioxide Emissions Avoided	976 tons	476 tons	1,452 tons
Equivalent to cars off the road	188 cars	92 cars	280 cars
Participants	5 borrowers	4 borrowers	9 borrowers
Jobs Created/Retained**	9	4	13

MEA State Energy Investment Fund Accomplishments FY09 and FY10

* MWH equivalents were calculated using energy estimates (in kWh or MMBTUs) provided by borrowers to calculate loan terms.

** Jobs created/retained were calculated using a formula from the EPA Rapid Deployment for Energy Efficiency Toolkit: http://www.epa.gov/cleanenergy/documents/suca/rdee_toolkit.pdf. The formula estimates, conservatively, that 5 jobs are created or retained for every million dollars spent on energy efficiency projects.

C. State Agency Loan Program (SALP)

SEIF Budget: $ 800,000 (FY 09)

SALP is a revolving loan program administered by MEA. To assist the state in leading by example, SALP provides zero interest loans (with a 1% administrative fee) to state agencies for energy efficiency improvements.

Beneficiaries

State agencies implementing projects to reduce energy consumption

The Way It Works

MEA administers the SALP program in partnership with the Department of General Services. State agencies pay zero percent interest on these loans with a one percent administration fee. The majority of the funds are linked with Energy Performance Contracts (EPCs) developed by state agencies working with both the Department of General Services and MEA. Up to 20% of the funds are available through a MEA solicitation process for smaller energy projects for which the EPC process is not appropriate. As SALP loans are repaid, MEA will make new loans with that money, creating an on-going sustainable stream of capital for energy efficiency improvements throughout the state.

FY 09 Accomplishments
In FY 2009, SEIF funds allowed MEA to fund two SALP loans:

2009 SALP LOANS	
Agency Name	**Loan Amount**
University of Maryland- College Park	$500,000
University of Baltimore	$300,000
Total	$800,000

FY 10 Accomplishments

MEA made several SALP loans in 2010 using non-SEIF funding sources.

Return on Investment

SEIF funding in FY 2009 created 9 jobs and saved 789 MWhs for the portion of the projects receiving SALP funds. The cumulative total over the lifetime of the installed energy measures from the loans made in FY 2009 is projected to be over $1.4 million.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

Program Goal	FY 09 Results	FY 10 Results	Total FY 09 and FY 10 Results
Annual reduction in energy consumption*	789 MWh equivalent	n/a	789 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	64 homes	n/a	64 homes
Annual cost savings Life Cycle cost savings	$ 94,680 per year $ 1.4 million over 15 years	n/a	$ 94,680 per year $ 1.4 million over 15 years
Carbon Dioxide Emissions Avoided	407 metric tons	n/a	407 metric tons
Equivalent to cars off the road	78 cars	n/a	78 cars
Jobs Created/Retained**	9 jobs	n/a	9 jobs

* MWH savings were calculated by the EPC contractor or the installation contractor.

** Jobs created/retained were calculated based on the estimate, created by the Council of Economic Advisors and provided to the state by the Department of Energy, that each $92,000 of program expenditure generates one job.

D. EmPOWERing Clean Energy Communities Grants

SEIF Budget: $ 4.3 million (FY09)
$ 3.26 million (FY10)
$ 7.56 million (Total)

Beneficiaries

The EmPOWERing Clean Energy Communities Grant program benefits Maryland local governments and non-profit organizations.

The Way it Works

The EmPOWERing Clean Energy Communities Grant program provides funds to local governments and non-profit organizations to facilitate projects that increase the energy efficiency and/or the use of renewable energy to benefit the local government or community and to promote affordable, reliable, and clean energy. Examples include a housing authority that makes improvements to a building complex to reduce the energy bills of the low income residents or a feasibility study to enable a town to analyze opportunities for energy efficiency and/or renewable energy.

FY 09 Accomplishments

In FY 2009, the EMPOWERing Clean Energy Communities Grants program provided $4.3 million in grants to local governments and non-profits:

EMPOWERING CLEAN ENERGY COMMUNITIES GRANTS FY 09		
RECIPIENT	**City/County**	**GRANT AMOUNT**
Catholic Charities	Anne Arundel County, Baltimore County, Baltimore City, and Harford County	$254,547
Fuel Funds	Statewide	$149,175
Habitat for Humanity	Statewide	$696,935
Annapolis EZ project	Anne Arundel County	$99,950
Civic Works, Inc	Baltimore City	$349,416
Coalition to End Childhood Lead Poisoning	Baltimore City	$100,000
Rebuilding Together Baltimore	Baltimore City	$55,500
St. Ambrose Housing Center	Baltimore City	$75,000
Baltimore County Residential Energy Efficiency	Baltimore County	$376,577
Jewish Community Services	Baltimore County	$10,000
Episcopal Housing Corporation	Carroll County	$48,000
Frederick County DHCD	Frederick County	$200,000
Garret Co Community Action	Garrett County	$100,000

MEA State Energy Investment Fund Accomplishments FY09 and FY10

Committee		
Community Action Council of Howard County	Howard County	$300,000
Montgomery County Housing Opportunities Commission	Montgomery County	$250,000
Hebrew Homes of Greater Washington	Montgomery County	$97,578
Dorchester & Talbot Habitat for Humanity	Dorchester County, Talbot County	$50,000
Bay Ridge Civic Assoc	Anne Arundel County	$20,000
Chesapeake Beach	Calvert County	$38,000
Caroline County Humane Society	Caroline County	$3,000
Bishop Claggett Center	Frederick County	$16,396
Maryland Salem Children's Trust	Garrett County	$6,000
Doolittle Farm and Friends of Frederick County	Montgomery County	$3,750
Holy Redeemer School	Prince George's County	$5,000
Somerset County Economic Development	Somerset County	$37,500
Town of Ocean City	Worcester County	$6,000
City of Annapolis Municipal Buildings	Anne Arundel	$73,450
National Aquarium - Baltimore	Baltimore City	$100,000
Baltimore County SPCA	Baltimore County	$7,000
American Visionary Art Museum	Baltimore City	$40,000
Baltimore Hebrew Congregation	Baltimore County	$1,000
Islamic Society of Baltimore	Baltimore County	$85,450
Caroline County Humane Society	Caroline County	$23,250
Town of Charlestown	Cecil County	$10,000
Frederick County Public Schools	Frederick County	$35,498
Frederick County Government	Frederick County	$79,437
City of Aberdeen	Harford County	$15,000
Kent County Government	Kent County	$15,000
Montgomery County Department of Environment Protection	Montgomery County	$58,938
Casa de Maryland	Prince George's County	$176,187
Maryland National Capital Park and Planning Commission	Montgomery County	$58,786
Landover Hills	Prince George's County	$50,000
Queen Anne's County	Queen Anne's County	$14,985
Washington County Government	Washington County	$15,000
City of Salisbury	Wicomico County	$79,948
Technical Assistance to help MEA organize and review grant applications	n/a	$13,098
	Total	$4.3 M

MEA State Energy Investment Fund Accomplishments FY09 and FY10

FY 10 Accomplishments

In FY 2010, the EMPOWERing Clean Energy Communities Grants program provided $3.26 million in grants to local governments and non-profits:

EMPOWERING CLEAN ENERGY COMMUNITIES GRANTS FY 10		
RECIPIENT	**City/County**	**GRANT AMOUNT**
Arundel Community Development Services	Anne Arundel County	$191,500
Boy & Girls Club of Annapolis	Anne Arundel County	$15,000
Coalition to End Childhood Lead Poisoning	Baltimore City	$190,865
Baltimore City Department of General Services	Baltimore City	$177,000
East Baltimore Community Action Coalition	Baltimore City	$40,350
St. Ambrose Housing Center Baltimore City	Baltimore City	$65,893
Diversified Housing Development	Baltimore County	$300,000
Jewish Community Services	Baltimore County	$26,339
St. Ambrose Housing Center Baltimore County	Baltimore County	$59,107
City of Frederick Planning Dept.	Frederick County	$90,284
Interfaith Housing Alliance	Frederick County	$12,680
Volunteer City Frederick	Frederick County	$6,000
Community Living, Inc	Frederick County	$10,536
Garrett County Community Action Committee	Garrett County	$50,000
City of Aberdeen	Harford County	$26,650
Howard County Community Action	Howard County	$83,000
Montgomery County Rebuilding Together	Montgomery County	$78,101
Charles Smith Life Communities	Montgomery County	$50,913
United Communities Against Poverty	Prince George's County	$490,000
National Association of Veterans	Prince George's County	$184,311
Queen Anne County Housing Authority	Queen Anne's County	$50,000
Hagerstown Light Dept.	Washington County	$20,000
Maryland Coastal Bays	Worcester County	$5,380
Habitat for Humanity - Allegany County	Allegany County	$23,931
The Arc of Baltimore	Baltimore County	$52,054
Patuxent Habitat for Humanity-	Calvert County	$50,000

Calvert County		
Caroline Co Habitat for Humanity	Caroline County	$50,000
Upper Shore Aging Caroline County	Caroline County	$50,000
Episcopal housing Co	Carroll County	$58,625
Hidman Foundation	Carroll County	$64,000
Visions America Community Development Corporation	Dorchester County	$50,000
Habitat for Humanity - Harford County	Harford County	$79,400
Upper Shore Aging Kent County	Kent County	$50,000
Habitat for Humanity - Montgomery County	Montgomery County	$100,000
Shore Up - Somerset County	Somerset County	$50,000
Friends of Cedar Lane	St. Mary's County	$50,000
Patuxent Habitat for Humanity - St. Mary County	St. Mary's County	$44,264
Habitat for Humanity - Choptank	Talbot County	$12,185
Upper Shore Aging Talbot County	Talbot County	$50,000
Washington County Habitat for Humanity	Washington County	$31,241
Shore Up - Wicomico County	Wicomico County	$54,699
Habitat for Humanity - Wicomico County	Wicomico County	$13,245
Shore Up - Worcester County	Worcester County	$42,267
Govan's Ecumenical Development Corporation	Baltimore City	$48,950
Technical Assistance for MEA to help organize and evaluate grant applications	Statewide	$14,549
	Total	$3.26 M

Return on Investment

These funds assisted consumers in Maryland by providing 89 grants for various energy efficiency and renewable energy projects in FY09 and 10. 41 jobs were created or retained in FY 2009 and another 35 jobs were created or retained in FY 2010.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

Program Goal	FY 09	FY 10	Total Results
Annual reduction in electricity consumption*	3,593 MWH	4,911 MWH	8,504 MWH
Annual reduction in natural gas consumption*	20.77 MMCF	14.4 MMCF	35.21 MMCF
Annual reduction in heating oil consumption*	2,086 gallons	27,286 gallons	29,372 gallons
MWH savings equivalent to the electricity consumption of X number of MD homes per year	288 homes	396 homes	684 homes
Natural gas savings equivalent to the natural gas consumption of X number of MD homes per year	271 homes	181 homes	452 homes
Annual energy cost savings	$788,848 per year	$ 879,225 per year	$ 1.668 million per year
Life Cycle energy cost savings	$11.83 million over 15 years	$ 13.19 million over 15 years	$ 25.02 million over 15 years
Carbon Dioxide Emissions Avoided	2997 metric tons	3598 metric tons	6595 metric tons
Equivalent to cars off the road	578 cars	693 cars	1,271 cars
Number/Participants	3372 participants	4191 participants	7563 participants
Jobs Created/Retained**	41	35	76

* MWH, natural gas and fuel oil savings calculated in FY 09 using the ARRA DOE Calculator by inputting project specific details for each grant. MWH, natural gas, and fuel oil savings calculated in FY 10 using the ARRA DOE Calculator “financial” calculator tab, assuming 50% of funding goes to residential grants (i.e. residential home retrofits) and 50% of funding goes to commercial grants (i.e. senior multifamily unit upgrades). This is a rough estimate; exact numbers cannot be calculated until the subgrantees complete their projects and we know the exact measures installed using grant funds.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

** Jobs created/retained in FY 09 derived from actual hours invoices. Jobs created/retained in FY 10 based on the estimate, created by the Council of Economic Advisors and provided to the state by the Department of Energy, that each $92,000 of program expenditure generates one job.

E. Farm Energy Technical Assistance & Incentives

SEIF Budget: $ 200,000 (FY 09)
$ 600,000 (FY 10)
$ 800,000 (Total)

Maryland's 12,000 farms spent about $26 million on electricity in 2008. Maryland farms spend tens of millions on petroleum products, gasoline, diesel fuel, natural gas, propane, fuel oil, and other fuels. This statewide project provides energy assessments to Maryland farms, and offers cash rebates for the installation of qualifying farm energy efficiency measures.

Beneficiaries

Rural Marylanders and all Maryland farms

The Way it Works

This statewide program has a two-tiered approach to capture energy savings for Maryland agricultural producers. Tier 1 offers technical assistance and/or rebates on energy efficient equipment. Tier 2 offers farm energy assessments to qualifying producers who have substantial potential energy savings, and/or rebates on energy efficient equipment. Services offered include technical assistance, energy assessments, and rebates. All Maryland farms that use a minimum of 10,000 kWh per year are be eligible to receive technical assistance; all Maryland farms are able to receive rebates provided their project meets a minimum energy savings threshold. Energy assessments are reserved for farms that have higher energy use and/or higher energy savings potential, and are committed to installing measures as a result of the assessment.

FY 09 Accomplishments

During FY 09, MEA provided incentives to 40 farmers in 10 different Maryland counties.

FARM ENERGY PROGRAM FY 09				
Recipient Zipcode	kWh	Propane Gallons	Natural Gas MMCF	Technical Assistance/ Incentive Amount
21742	1,725			$770
21157				$1,660
21795	4,497			$1,269
21791	5,597			$1,467
21742	1,739			$773
21817		431		$2,197

MEA State Energy Investment Fund Accomplishments FY09 and FY10

21640	10,161			$2,289
21722	39,197			$7,515
21660	28,468			$5,584
21617				$1,660
21640				$1,660
21617				$1,660
21874				$1,660
21617				$1,660
21632				$1,660
21758	19,543			$3,977
21874				$1,660
21901		421		$2,156
20785	400,014			$72,462
20785				$960
20723				$960
20759				$960
20759	7,641			$1,835
21613				$1,960
21157	142,823			$26,168
21757	7,739			$1,853
21617		755		$3,502
21632		141		$1,026
21783	11,692			$2,564
21797				$1,960
21874	2,572			$923
21874		50		$661
21769	16,337			$3,400
21804				$1,960
21901		100		$863
21620		433		$2,205
21639		2,672		$11,228
21639				$960
21015				$1,960
21793				$1,960
21659	30,321			$5,917
21161				$1,960
21757				$1,960
21632	6,887			$1,699
21632		772		$3,571
21625		266		$1,532
TOTAL	736,953	6,041	0	$200,000

MEA State Energy Investment Fund Accomplishments FY09 and FY10

FY 10 Accomplishments

During FY 10, MEA provided incentives to 313 farmers in 15 different Maryland counties. In recognition of its success, the Farm Energy Audit Program received an Exemplary Program Award from the American Council for an Energy Efficient Economy (ACEEE) as one of the five most outstanding energy efficiency programs in the U.S in 2010.

FARM ENERGY PROGRAM FY 10				
Recipient Zipcode	kWh	Propane Gallons	Natural Gas MMCF	Technical Assistance/ Incentive Amount
20723	82,290		53	$173,560
21632		540		$2,636
21769	140,989			$25,838
21643		463		$2,325
21084				$1,960
21084	683			$583
21084		864		$3,942
20776				$1,960
21157	6,020			$1,543
21620	3,737			$1,132
21620		307		$1,697
21784		2,276		$9,632
21015	4,348			$1,242
21015		168		$1,137
21874	47,269			$8,968
21874		927		$4,195
21874				$1,960
21660	64,240			$12,023
21840	9,040			$2,087
21840		776		$3,587
21158				$1,960
21157				$1,960
21755				$1,960
21132				$1,960
21613	7,067			$1,732
21613		1,000		$4,490
21613				$960
21645				$1,960
21157		1,975		$8,419
21643				$960

21758				$1,960
21643	52,426			$9,896
21874				$1,960
21617		144		$1,040
21158	5,889			$1,520
21613	7,067			$1,732
21613		969		$4,365
21623	76,838			$14,290
21822		1,217		$5,364
21659				$1,960
21659		702		$3,289
21788				$960
21015	21,303			$4,294
21015	6,535			$1,636
21015		747		$3,470
21822				$1,960
21645	16,728			$3,471
21776		2,151		$9,128
21788	19,485			$3,967
21853		1,072		$4,780
21161		4,709		$19,437
21617		571		$2,761
21853	56,259			$10,586
21822				$1,960
21536				$1,960
21645	3,778			$1,140
21625		295		$1,648
21863	31,906			$6,203
21659				$1,876.84
21161				$1,876.84
21632				$1,876.84
21901				$1,876.84
21635				$1,876.84
21623				$1,876.84
21659				$1,876.84
21623				$1,876.84
21851	103,749			$19,051.66
21851	58,330			$10,876.24
21851		1,630		$6,945.74
21157	1,382			$625.60
21157		18,564		$75,189.76

21791	14,240			$2,940.04
21851	251,565			$45,658.54
21850	83,432			$15,394.60
21659				$1,876.84
21161				$1,876.84
21632				$1,876.84
21901				$1,876.84
21635				$1,876.84
21623				$1,876.84
21659				$1,876.84
21623				$1,876.84
21851	103,749			$19,051.66
21851	58,330			$10,876.24
21851		1,630		$6,945.74
21157	1,382			$625.60
21157		18,564		$75,189.76
21791	14,240			$2,940.04
21851	251,565			$45,658.54
21850	83,432			$15,394.60
TOTAL	1,689,293	62,261	53	798,487

Return on Investment

Program Goal	FY 09 Results	FY 10 Results	Total Results
Annual reduction in electricity consumption*	737 MWH	1,689 MWH	2,426 MWH
Annual reduction in natural gas consumption*	n/a	53 mmcf	53 mmcf
Annual reduction in propane consumption*	6,041 gallons	62,261 gallons	68,302 gallons
Savings equivalent to the electricity consumption of X number of MD homes per year	59 homes	136 homes	196 homes
Savings equivalent to the natural gas consumption of X number of MD homes per year	n/a	687 homes	687 homes

MEA State Energy Investment Fund Accomplishments FY09 and FY10

Annual cost savings Life Cycle cost savings	$101,881 per year $ 1.5 million over 15 years	$ 928,557 per year $ 13.9 million over 15 years	$ 1.03 M per year $ 15.5 million over 15 years
Carbon Dioxide Emissions Avoided	414 metric tons	4,111 metric tons	4,526 metric tons
Equivalent to cars off the road	80 cars	792 cars	872 cars
Number/Participants	40 farms	313 farms	353 farms
Jobs Created/Retained**	2 jobs	9 jobs	11 jobs

* Energy savings calculated by taking the delta between the name plate capacity of old equipment that was replaced and of the new equipment installed.

** Jobs created/retained based on the estimate, created by the Council of Economic Advisors and provided to the state by the Department of Energy, that each $92,000 of program expenditure generates one job.

F. State Energy Efficient Appliance Rebate Program

SEIF Budget: $ 768,000 (FY10)

MEA worked with Maryland's utilities to enhance their existing appliance rebate programs and put more rebates in the hands of Maryland consumers. This program provides additional rebates for super-efficient clothes washers and refrigerators, adding onto the amount offered as part of the utility programs. It also added a new product rebate for ENERGY STAR electric heat pump water heaters. Many utilities and retail appliance outlets offered appliance recycling which helped in the reduction of greenhouse gases.

Beneficiaries

This program is available to all Maryland homeowners, including those serviced by small municipal and cooperative utilities. MEA has run a simplified appliance rebate program for these consumers, who currently have no such program available to them. Municipalities and co-ops have assisted in marketing and outreach.

The Way it Works

This program creates incentives for homeowners to purchase efficient appliances to replace their older models. Homeowners are also able to take advantage of any applicable rebates from their utility providers and federal tax credits. The federal funding in FY 2010 offered a $50 rebate for super-efficient refrigerators, a $100 rebate for super-efficient clothes washers, and a $300 rebate for ENERGY STAR electric heat pump water heaters. The rebate for refrigerators and clothes washers are for models that are of a greater efficiency than ENERGY STAR; MEA and the utilities are actively working to market these products. In FY 2011, new rebates are added for room air conditioners, central air conditioners, air source heat pumps, and freezers. The SEIF funding supports these rebates, as well. The program uses the same mail-in rebate format as the utilities' rebate programs. MEA's Technical Services contractor handles rebates for consumers who are not customers of the five major utilities.

FY 09 Accomplishments

This was a new program launched in FY 2010.

FY 10 Accomplishments

MEA launched the State Energy Efficient Appliance Rebate Program (SEEARP) on Earth Day, April 22 2010. SEIF funding provided the administrative support and marketing of 50% matching funds ($768,000 encumbered) to allow MEA and the utilities to deliver $5.4 million in consumer rebates during calendar year

2010. During FY 10 consumers received rebates for 3,987 clothes washers, 725 refrigerators, and 79 heat pump water heaters. Because the program began near the end of FY 2010 and took a few months to ramp up, a much higher number of rebates will be given out in FY 2011. However, the SEIF funding will be instrumental to every rebate, as it provides administrative matching.

Return on Investment

Overall, this program saved more than 7900 MWh annually throughout the State, saving consumers about $1.1 million annually. Since SEIF funds paid for 13% of the program, 13% of those savings (ie. 1027 MWH and $143,000 annually) are thanks to the SEIF funds.

Program Goal	FY 09 Results	FY 10 Results	Total Results
Annual reduction in energy consumption	n/a	1,027 MWh equivalent	1,027 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	n/a	83 homes	83 homes
Annual cost savings Life Cycle cost savings	n/a	$ 154,000 this year $2.3 million over 15 years	$ 154,000 this year $2.3 million over 15 years
Carbon Dioxide Emissions Avoided	n/a	529 metric tons	529 metric tons
Equivalent to cars off the road	n/a	102 cars	102 cars
Number/Participants	n/a	4791 appliances/HVACs	4791 appliances/HVACs
Jobs Created/Retained	n/a	5	5

* MWH equivalents were calculated using a spreadsheet provided by DOE specifically for appliance rebate programs.

** Jobs created/retained were calculated using a formula from the EPA Rapid Deployment for Energy Efficiency Toolkit: http://www.epa.gov/cleanenergy/documents/suca/rdee_toolkit.pdf. The formula estimates that 8 jobs are created or retained for every million dollars spent in an appliance rebate program.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

G. Clean Energy Workforce Training and Capacity Building

SEIF Budget: $ 875,000 (FY09)
$ 496,000 (FY10)
$ 1,371,000 (Total)

Since 2009, MEA has funded Maryland Community Colleges to provide training to the workforce that is supporting the expansion of residential energy retrofits in Maryland.

Beneficiaries

Maryland jurisdictions, businesses and job seekers

The Way it Works

MEA has partnered with the Department of Housing and Community Development (DHCD) and Maryland's community colleges to establish a workforce development program. The program provides training for trainers, the purchase of curriculum, materials, and equipment to support the Home Performance with ENERGY STAR program with the utilities. This Program, along with funding from the DHCD Weatherization Program, has resulted in the enrollment of nearly 1000 students in energy auditor/contractors classes. This new workforce will provide energy efficiency upgrades in homes throughout Maryland at all income levels. In addition, MEA used these funds for existing home retrofit quality assurance and support of the Maryland Home Performance website.

FY 09 Accomplishments

All courses began in FY 2010. Program planning took place during FY 2009, including curriculum development and instructor training.

FY 10 Accomplishments

MEA worked with Maryland Community Colleges to train over 900 new individuals and businesses in energy retrofits in courses that began in FY 2010.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

Workforce Training FY 10		
Training Location	**City/County**	**Job Seekers Trained**
Allegany Community College	Allegany County	58
Anne Arundel Community College	Anne Arundel	7
Baltimore City Community College	Baltimore City	170
Community College of Baltimore County	Baltimore County	320
Frederick Community College	Frederick County	96
Hagerstown Community College	Washington County	16
Howard Community College	Howard County	4
Montgomery College	Montgomery County	40
Prince George's Community College	Prince George's County	206
Wor-Wic Community College	Worcester and Wicomico	11

Return on Investment

In FY 09 and 10, this program trained over 900 energy retrofitters. This program is still in progress and we expect to train a few hundred more energy workers before funding is expended. Most importantly, we've created a systematic approach to training workers for the energy industry in the state that can continue into the future. This will be critical as the industry continues to mature.

Program Goal	**FY 09 Results**	**FY 10 Results**	**Total Results in FY 09 and 10**
Number of Job Seekers Trained	n/a	928	928
Jobs Created/Retained*	n/a	6	6

*Jobs calculations based on actual time worked by instructors and the coordinator at the community college.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

H. State Agency Energy Efficiency Improvements

Budget: $200,000 (FY10)

Beneficiaries

State parks.

The Way it Works

During FY 10, MEA established a partnership with the Maryland Department of Naturals Resources to provide energy efficiency audits and upgrades to dozens of small State Park cabins throughout the state. The $200,000 program funds training for state park maintenance staff and Maryland Conservation Corps members to audit and retrofit cabins and small administrative buildings.

FY 10 Accomplishments

The estimated energy saving for the project is 225 MWh.

Return on Investment

Program Goal	FY 09 Results	FY 10 Results	Total Results
Annual reduction in electricity consumption*	n/a	225 MWh	225 MWh
Savings equivalent to the energy consumption of X number of MD homes per year	n/a	18 homes	18 homes
Annual cost savings Life Cycle cost savings	n/a	$ 27,000 per year $ $405,00 million over 15 years	$ 27,000 per year $ $405,00 million over 15 years
Carbon Dioxide Emissions Avoided	n/a	116 tons	116 tons
Equivalent to cars off the road	n/a	22 cars	22 cars
Number/Participants	n/a	5 trainees	5 trainees
Jobs Created/Retained	n/a	2 jobs	2 jobs

* MWH were calculated using the DOE ARRA Benefits calculator .

**Jobs created/retained were calculated based on the estimate, created by the Council of Economic Advisors and provided to the state by the Department of Energy, that each $92,000 of program expenditure generates one job.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

I. Residential Renewable Energy Grants

Budget: $ 1.4 million (FY09)
$ 2 million (FY10
$ 3.4 million (Total)

Marylanders understand that residential solar, geothermal, and wind can significantly reduce their energy bills and reduce the state's carbon footprint. Soaring demand for MEA's grant program has resulted in hundreds of Maryland households engaging in this ever increasingly popular program.

Beneficiaries

All Marylanders that can install a small renewable energy system on their home or small business

The Way It Works

MEA uses SEIF funds to serve applications as they come forward. Contractors market the program heavily and demand for renewable grants continues to be high.

FY 09 Accomplishments

In FY 2009, MEA's residential renewable grants program awarded $1.4 Million in SEIF-funded grants to over 300 Maryland households and small businesses.

Residential Renewable Energy Grants FY09		
City/County	Number of Households/Small Businesses Receiving Grants	Grant Totals
Allegany	3	$12,000
Anne Arundel	25	$86,131
Baltimore	34	$130,246
Baltimore City	5	$26,042
Calvert	7	$27,640
Caroline	2	$6,000
Carroll	22	$105,416
Cecil	8	$23,523
Charles	6	$17,000
Dorchester	3	$9,000
Frederick	8	$36,393
Garrett	1	$3,000
Harford	36	$143,358

Howard	34	$184,918
Kent	1	$3,000
Montgomery	57	$359,040
Prince George's	6	$40,270
Queen Anne's	3	$16,000
Saint Mary's	12	$48,211
Somerset	1	$3,000
Talbot	2	$4,685
Washington	7	$40,630
Wicomico	10	$43,500
Worcester	10	$28,170
Grand Total	**303**	**$1.4 M**

FY 10 Accomplishments

MEA's residential renewable energy grants program proved extremely popular in FY 10 with over 500 Maryland households and small businesses receiving SEIF-funded grants.

Residential Renewable Energy Grants FY 10		
City/County	Number of Households/Small Businesses Receiving Grants	Grant Totals
Allegany	6	$26,650
Anne Arundel	64	$222,284
Baltimore	41	$138,261
Baltimore City	7	$25,775
Calvert	17	$38,500
Caroline	6	$14,696
Carroll	32	$152,490
Cecil	12	$37,081
Charles	6	$17,500
Dorchester	7	$20,650
Frederick	17	$64,454
Garrett	3	$7,500
Harford	50	$131,206
Howard	65	$308,000
Kent	8	$32,500
Montgomery	82	$375,316
Prince George's	18	$91,046
Queen Anne's	4	$18,500

Somerset	6	$18,200
St. Mary's	17	$43,000
Talbot	12	$41,525
Washington	6	$35,264
Wicomico	17	$46,987
Worcester	14	$42,750
Grand Total	**517**	**$2 M**

Return on Investment

In FY 09 and 10, this program greatly increased the supply of renewable energy systems on Maryland homes and small businesses, reducing annual consumption of fossil-fuel based energy by the equivalent of 4,000 MWh. In addition, the grants helped create or retain 34 jobs.

Program Goal	**FY 09 Results**	**FY 10 Results**	**Total Results**
Annual reduction in fossil fuel-based energy consumption*	1,420MWh equivalent	2,580MWh equivalent	4,000 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	115 homes	208 homes	323 homes
Annual cost savings Life Cycle cost savings	$213,000 per year $3.195 million over 15 years	$387,000 per year $5.805 million over 15 years	$600,000 per year $9.0million over 15 years
Carbon Dioxide Emissions Avoided	732 metric tons	1,330 metric tons	2,062 metric tons
Equivalent to cars off the road	141 cars	256 cars	397 cars
Number/Participants	303 grants	517 grants	820 grants
Jobs Created/Retained**	15 Jobs	19 Jobs	34 Jobs

*MWH equivalents were calculated using the DOE ARRA Benefits Calculator, with the following assumptions:
Solar PV: 1.19MWh/kW
Wind: 2.269MWh/kW
Geothermal: 1.057 MWh/Ton
Solar Hot Water: 3.73 MWh/Installation (Assumes 2 panels per install)

**Jobs created/retained were calculated based on the estimate, created by the Council of Economic Advisors and provided to the state by the Department of Energy, that each $92,000 of program expenditure generates one job.

J. Consumer Awareness - Educational Outreach Programs

SEIF Budget: $ 742,000 (FY 09)
$ 826,500 (FY 10)
$ 1.6 million Total

The Maryland Energy Administration oversees the State's educational outreach efforts related to energy efficiency and clean energy, as well as the marketing of all related programs available through the MEA. The focus is on promoting general energy awareness, in connection with practical, low and no-cost energy saving tips for consumers, while tying all messaging back to our State goal of EmPOWER Maryland: 15% energy reduction by 2015. The MEA strives to create relevant and impactful campaigns and community partnerships which will reinforce the resources available through the MEA and EmPOWER this demographic to make smart energy decisions.

Beneficiaries

All Maryland consumers, with a focus on low to moderate income residents

The Way It Works

Large-Scale Traditional Media Campaigns: Traditional media outlets are utilized through a mix of transit, outdoor, print, and web advertisements, as well as local public/commercial radio messaging, informational posters and brochures. Targeted demographic sectors throughout the State will have been reached in several stages and with multiple flights in conjunction with major seasonal shifts in temperatures and peak energy consumption. All messaging centers around building the *EmPOWER Maryland* brand awareness, in association with the MEA, and increasing the understanding of simple no and low-cost energy changes each consumer can make today for a more "Smart, Green and Growing" Maryland in the future.

Grass-Roots/Earned Media and Community Involvement: The MEA works in partnership with students at the Center for Design Practice at the Maryland Institute College of Art (MICA). Benefits of partnering with this local institution are found in lower development and production costs of educational outreach materials while delivering cutting edge design and powerful messaging for our targeted audiences. Earned media stems from routine press releases, newsletters and community educational events, such as MEA speaker participation at community and group events, as well as presence at local fairs and festivals.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

FY09 and FY 10 Accomplishments

MEA launched its first major educational awareness campaign which spanned from FY 09 to FY10 with transit, outdoor, print, radio, and internet ads on the theme of “EmPOWER Maryland.” MEA’s goal was to reach Marylanders with simple low and no cost tips for increasing energy efficiency throughout our State. All media design and placement was chosen to support Governor O’Malley’s EmPOWER Maryland legislation, with messaging and graphics designed to primarily target low to moderate residents. In addition to media buys, monthly newsletters were sent to over 3,600 opt-in subscribers (up from 2,300 subscribers in FY09). Each newsletter was designed to highlight recent news, events and citizen-focused information on MEA’s available programs, grants and resources. Press releases and Opinion/Editorial articles were written in house and submitted for distribution through the Governor’s communications office, as well as MEA’s media contact list and directly through local papers.

Return on Investment

Traffic to the MEA website was up by 34% from FY 09 to FY 10, several of our programs, which historically were slow to exhaust resources, now have waitlists of upwards of 200 individuals, and with our large-scale outreach efforts just beginning, we anticipate increases in program participation. This increased awareness of consumers’ energy savings options significantly increases the energy efficiency goals of the O’Malley/Brown administration.

K. Evaluation, Measurement and Verification

SEIF Budget: $ 333,000 (FY 10)

Beneficiaries

All Marylanders

The Way It Works

MEA performs evaluation, measurement and verification of its programs to accurately measure program benefits and to prevent waste, fraud and abuse.

FY 10 Accomplishments

MEA entered into a contract with the Northeast Energy Efficiency Partnerships (NEEP) to provide Maryland with a series of evaluation, measurement and verification products to support the EmPOWER Maryland program efforts of the Public Service Commission and MEA. In FY 10, MEA provided $333,000 of funding for a mid-Atlantic Technical Resource Manual. This manual provides a set of Common Savings Assumptions and a number of other technical resources to support energy efficiency efforts in Maryland.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

L. Administration

SEIF Budget: $ 606,000 (FY 09)
$ 1.58 million (FY 10)
$ 2.18 million (Total)

Beneficiaries

All Marylanders

The Way It Works

As a leading state in clean energy, Maryland has enacted some of the most ambitious state-wide energy legislation in the nation. In addition to joining RGGI, Maryland has enacted:

- The EmPOWER Maryland Act seeking a 15% reduction in both peak demand and overall electricity consumption by 2015,
- A 20% renewable portfolio standard by 2022 , and
- A 25% reduction in greenhouse gas emissions by 2020.

To help meet these ambitious goals, MEA has nearly doubled its staff , launched over a dozen new programs and incentives to transform every sector in the State by increasing the use of clean energy technologies. The $2.18 million of SEIF funding used by MEA ($606,000 in FY 09 and $1.58 M in FY 10) has allowed the agency to administer all the programs noted above, as well as other initiatives, such as the State's efforts to bring offshore wind generation to Maryland's shores and to bring smart grid to Maryland homes.

FY 09 and 10 Accomplishments

While MEA's RGGI accomplishments have been well chronicled in the programs described above, two additional exciting areas that receive RGGI administrative funds (in the form of staff time) but not programmatic dollars are: 1) offshore wind and 2) the Generating Clean Horizons Program.

Offshore Wind

In FY 09, MEA staff met with wind energy developers and considered deployment timelines for potential Maryland projects. MEA also reviewed interagency efforts on offshore wind energy, formulated a strategic approach focused on regional coordination and briefed the Governor on potential offshore wind development impacts. In FY 10, MEA issued a request for expression of interest in offshore wind; engaged the Department of Interior on a formal basis and held an initial State/federal taskforce meeting; signed an MOU with Delaware and Virginia to develop common transmission strategies and find ways to foster

sustainable regional demand for offshore wind power; joined with Delaware to send a letter to President Obama, requesting a federal partnership that would result in the procurement of large amounts of offshore wind power; and sent a letter from the Governor to the Navy Secretary Ray Mabus proposed power purchase by regional Navy facilities.

Generating Clean Horizons

In FY 10, MEA worked with the Maryland Department of General Services and the University of Maryland to launch the Generating Clean Horizons Program which was a first-of-its-kind effort to leverage a state's own electricity load to jumpstart new and large scale renewable generation. Through the program, the State awarded PPAs to two wind developers and 1 solar developer to meet 78 MW of state government demand.

Return on Investment

Through its efforts, MEA is helping Maryland reach its ambitious energy efficiency, renewable energy and climate goals, creating green jobs and establishing Maryland as a national leader in clean energy.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

NON-MEA PROGRAMS

A. Department of Environment Climate Programs

SEIF Budget: $ 1 M (FY09)
$ 2.2 M (FY10)
$ 3.3 M (Total)

Beneficiaries

All Marylanders.

The Way it Works

The Maryland Department of the Environment (MDE) conducts research and implements measures to help the state reduce its carbon footprint.

FY 09 Accomplishments

- ***Nutrient Trading with Carbon Benefits:*** MDE contracted with CIER to research development of a carbon component to Maryland's Nutrient Trading program, one of the 42 mitigation policies approved by the MCCC in the 2008 Maryland Climate Action Plan. Analysis by CIER included estimating costs and benefits associated with and identifying policy questions regarding implementation of the carbon component. CIER was tasked to look at five issues: cross-state comparison, evaluation of GHG quantification tools, carbon quantification, economic impacts, and policy analysis. The results answered strategic questions concerning the possibility and value of applying carbon co-benefits to an existing nutrient trading program developed between the Maryland Department of Agriculture and the MDE's NPDES program. The results of this study will be included in the GGRA 2012 Plan due to the Governor and General Assembly by December 2012
- ***Maryland CO2 Budget Trading Program 2010 Review:*** MDE contracted with the Regional Economic Studies Institute of Towson University (RESI) to conduct a program review of the Maryland CO_2 Budget Trading Program (Program), Code of Maryland (COMAR) 26.09.01 through .04. The program review, required under COMAR 26.09.02.02E, included evaluating implementation of the Program and opportunities for revision of the Program as appropriate. The following areas were identified to be evaluated: functionality of RGGI allowance auctions; trends in auction clearing prices; impacts on electricity reliability; changes in electricity generation behavior; use of the four Maryland set-aside accounts; accessibility of the CO_2 allowance tracking system (COATS) database for emissions data and account information; and the overall impact of the Program. The report serves to satisfy the requirements of COMAR 26.09.02.02E and will be made public as well as provided to RGGI. In addition, the report will be included in the 2012 GGRA Plan due to the Governor and General Assembly by December 2012.

- ***Analysis of the Emissions Implications of New PJM Transmissions Lines:***MDE contracted with Resources for the Future (RFF) to perform modeling for potential electricity power generation or distribution projects chosen by MDE and Maryland Department of Natural Resources's Power Plant Research Project (PPRP). RFF operates a proprietary electricity economic model which was used exclusively 2006 through 2008 to assist with determining the cost impacts to Maryland ratepayers for Maryland participating in RGGI. For this contract, RFF utilized its model to compare and contrast economic and environmental impacts to Maryland's electricity sector based on costs of transmission construction and operation, overall emissions associated with electricity generation, and practicability and reliability of the generation and transmission technology. The study provided guidance for the promotion of economically and environmentally beneficial electricity generation or distribution strategies to address Maryland's long-term power needs and the results were shared with PPRP.
- ***2009/2010 Climate Registry Emission Submittals:***MDE has submitted GHG emission estimates from MDE properties into the Climate Registry database system. Filing these emission estimates costs $2,500 per year and in FY2009/2010 MDE submitted emissions to the registry for CY 06, 07, 08, and 09.
- C***Y 2009 RGGI Dues:***As a member of RGGI, Maryland is required to pay annual dues. These dues cover the cost of RGGI, Inc., development of the modeling platform and operation of the auctions, assist with research efforts in the development of offset criteria and any additional modeling requested through the RGGI board. The RGGI dues are based proportionally on the number of allowances granted to a state. Maryland, with a relatively high number of allowances, has proportionally high dues. As the first CO2 cap and trade program that targets reduction in power plant CO2 emissions, RGGI is vital to reaching Maryland's climate change goals. The revenues from the program fund the climate planning process and support energy efficiency measures such as Empower Maryland.

FY 10 Accomplishments

- ***Five Studies of the Economic, Employment, and Electricity Impacts from Maryland's GHG Emissions Reduction Act of 2009:*** The Greenhouse Gas (GHG) Emissions Reduction Act of 2009 (SB 278), (GGRA), requires Maryland Department of the Environment (MDE) to provide the legislature assurances regarding several key economic, employment and electricity reliability impacts. MDE contracted with the University of Maryland's Center for Integrative Environmental Research (CIER) for these studies. The research is broken out into the following five studies: 1. Review of costs for Manufacturing Sector; 2. Electrical Service Reliability Study; 3. Investigation of potential job loss; 4. Review to ensure net economic benefits to the state; and 5. Encourage new employment opportunity. This study addresses questions specifically posed in the legislation and will be included in the GGRA 2012 Plan due to the Governor and General Assembly by December 2012.
- ***Climate Inventory Engineer Support - Analysis of GHG Reductions:*** MDE contracted with SAIC to obtain additional engineering support and analyses for the greenhouse gas reduction impacts of the 42 mitigation policies listed in the 2008 Maryland Climate Action Plan; these policies have since then been updated by

respective lead State agencies. Quantification of GHG reductions for each policy will occur through modeling or other quantitative methods. This work will result in a more precise determination of the GHG emissions reduction potentials from the implementation of each mitigation policy and the potential for achieving the GGRA GHG emission reduction goal of 25% by 2020. This report will be included in the GGRA 2012 Plan due to the Governor and General Assembly by December 2012.

- ***Climate Action Plan Inventory Calculations:*** From 2007 to 2008, the Center for Climate Strategies (CCS) provided facilitation and technical support to the Maryland Commission on Climate Change (MCCC) in the development of the Greenhouse Gas and Carbon Mitigation Working Group's multi-sector climate mitigation plan. As part of its support to the MCCC, CCS compiled a baseline emissions Inventory and Forecast for Maryland. The data was assembled at a sufficient level of detail and disaggregation to support MCCC policy-specific assessments. Maryland requested CCS to provide all background data, equations, and assumptions used to create the Maryland Climate Action Plan's Inventory & Forecast. As Maryland moves forward in developing climate change programs and a more complete inventory and forecast, it is necessary to have access to all background data and assumptions used to create the inventory and forecast included in the 2008 Maryland Climate Action Plan. The updated Maryland inventory and forecast is required to be included in the 2012 GGRA Plan due to the Governor and General Assembly due by December 2012
- ***Phase II Multi-Pollutant Analysis:*** MDE contracted with the Northeast States for Coordinated Air Use Management (NESCAUM) to tailor and improve its regional scale multi-pollutant integrated assessment framework and the underlying data in order to foster analyses across pollutants and across environmental, economic, and public health disciplines for Maryland. Under this contract, NESCAUM will refine the multi-pollutant analysis framework developed in a previous MDE contract to allow for a more refined analysis and inclusion of a broader suite of climate and energy initiatives. The modeling will result in expanding MDE's understanding of the potential benefits and trade-offs of utilizing GHG emissions reduction strategies to achieve Maryland's air quality goals, offer a long-term ability at MDE to analyze the economic and policy impacts of its air quality programs and policies, and provide MDE with analyses that could assist in developing Maryland's 2012 GGRA plan and air quality plans. The results of this contract will be included in the 2012 GGRA Plan due to the Governor and General Assembly due by December 2012.
- ***2010 Climate Registry Dues:***MDE is a founding member of the Climate Registry. As such, Maryland has been asked to pay limited dues to help establish the registry and support the development of the tools needed to store registry information. The initial purpose of this project was to assist/ support with the development of a national climate registry.
- ***The Climate Registry - Independent Verification of MDE GHG Emissions:***MDE is a founding member and participant of the Climate Registry. E.H Pechan & Associates, Inc., a State and Registry approved verifier, was tasked with completing the independent third party verification of MDE's reported inventory consistent with the Registry's Verification Protocols. As a result, MDE can report its greenhouse gas emission inventory to the Climate Registry.

- ***CY 2010 RGGI Dues:*** As a member of RGGI, Maryland is required to pay annual dues. These dues cover the cost of RGGI, Inc., development of the modeling platform and operation of the auctions, assist with research efforts in the development of offset criteria and any additional modeling requested through the RGGI board. The RGGI dues are based proportionally on the number of allowances granted to a state. Maryland, with a relatively high number of allowances, has proportionally high dues. As the first CO2 cap and trade program that targets reduction in power plant CO2 emissions, RGGI is vital to reaching Maryland's climate change goals. The revenues from the program fund the climate planning process and support energy efficiency measures such as Empower Maryland.

Return on Investment

Through its efforts, MDE is helping the state achieve its goal of reducing GHG emissions 20% by 2020.

B. Department of Housing and Community Development Energy Retrofit Program

SEIF Budget: $ 2.5 million (FY09)

Beneficiaries

Maryland families.

The Way it Works

This program provides, at low or no cost, home improvements for families to reduce their home energy bills. The program provides additional and expanded funding and operations for the state's Assisted Home Performance with Energy Star (AHP) and Weatherization (WAP) programs for energy upgrades, building improvements, HVAC replacement and weatherization. MEA and the Department of Housing and Community Development (DHCD) created an MOU to allocate SEIF dollars for these programs that are housed within DHCD

FY 09 Accomplishments

In FY 09, $2.5 million was transferred to DHCD to retrofit over 100 homes, to install over 100 Energy Star HVACs and to enable WAP to weatherize over 200 homes that would not otherwise have been completed due to structural/health and safety problems.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

C. Department of Human Resources Low Income Bill Payment

SEIF Budget: $ 3.57 M (FY09)
$41.86 M (FY10)
$ 45.43 M (Total)

Beneficiaries

Low-income Maryland families.

The Way it Works

The Office of Home Energy Programs (OHEP) within the Maryland Department of Human Resources uses SEIF funds to provide electric assistance benefits to eligible low-income households. The SEIF funds are used for Electric Universal Service Program (EUSP) Bill Payment Assistance and Arrearage Retirement Assistance benefits. EUSP Bill Payment Assistance benefits are used to help make ongoing electric bills more affordable. Benefit amounts are based on electric usage and household income with a portion of electric bills being paid by the benefit. EUSP Arrearage Retirement Assistance is used to retire past due bills up to a maximum amount of $2,000. A benefit is available once every seven years per applicant. All benefits were paid directly to electric utilities on behalf of the program applicant. None of the SEIF funds were used for OHEP administrative functions.

FY 09 Accomplishments

EUSP Program (FY09)	Amount	Households Served	Average Benefit
Bill Assistance	$3,571,245	4,837	$738

FY 10 Accomplishments

EUSP Program (FY10)	Amount	Households Served	Average Benefit
Bill Assistance	$15,249,702	24,456	$624
Arrearage Retirement	$26,608,733	26,308	$1,011

MEA State Energy Investment Fund Accomplishments FY09 and FY10

Return on Investment

The investment in this program helped over 55,600 low-income households* pay their electric bills to keep the lights on.

Program Goal	FY 09 Results	FY 10 Results	Total Results
Number/Participants	4,837 households	50,764* households	55,601 households*

* Number of unique households served is lower because some households received bill assistance in both FY 09 and 10 and some households received both bill assistance and arrearage retirement.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

D. Department of General Services Energy Personnel

SEIF Budget: $ 100,000 (FY09)
$ 402,235 (FY10)
$ 502,235 (Total)

Beneficiaries

State agencies.

The Way it Works

Many State agencies are pursuing clean energy programs and projects, but have difficulty with the upfront costs to fund these activities. MEA, working with the Department of General Services (DGS) (the State agency responsible for state building and facility management) is leading by example, statewide for energy savings programs. In FY 09, MEA provided over $100,000 in SEIF funds to DGS to pay salaries for DGS's energy staff and another $402,000 was provided in FY 10.

FY 09 and FY 10 Accomplishments

In FY 09 and 10, MEA and DGS have had the following accomplishments:

- Creation of a statewide energy database, capturing state agencies' nearly 5,000 utility accounts and approximately $220 million worth of utility budgets, and creation of a base line of energy usage for those accounts against which energy savings can be measured.
- Beginning construction of 14 EPC projects, valued at $135 million, which will save the state approximately $14.5 million annually and over 110,000 tons of C02 annually.
- Developed an overall strategy to purchase electricity in Maryland's deregulated market, using the combined purchasing power of state agencies, which use 1.4 billion kWh per year. The strategy is saving Maryland millions of dollars each year
- Launched the Generating Clean Horizons Program which was a first-of-its-kind effort to leverage a state's own electricity load to jumpstart new and large scale renewable generation; Through the program, the State awarded PPAs to two wind developers and 1 solar developer to meet 78 MW of state government demand.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

E. State Energy Loan Repayments

SEIF Budget: $ 3.37 million (FY09)
$ 4.4 million (FY10)
$ 7.77 milion (Total)

Beneficiaries

State agencies.

The Way it Works

In Maryland, general funds normally pay for state agencies' energy bills. To lower those bills, many state agencies are currently participating in energy performance contracts (EPCs). EPCs are intended to be self-funded: the state is supposed to take out loans to pay for energy improvements through the EPC, and the annual energy savings from those improvements are guaranteed to be more than enough to repay those loans. However, instead of using the energy savings to repay the loans, the State has chosen to use SEIF funds to repay the loans, thereby freeing up general funds to address other needs in the State budget.

FY 09 and FY 10 Accomplishments

In FY 09 and 10, SEIF investments in this program freed up $7.7 million of general funds that otherwise would have gone to pay state agencies' energy bills.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

F. Rate Relief

SEIF Budget:

$ 6.56	million	(FY09)
$ 16.95	million	(FY10)
$ 23.51	million	(Total)

Beneficiaries

Maryland rate payers.

The Way it Works

The State's utility companies use SEIF funds to provide direct rate relief for all Marylanders.

FY 09 and FY 10 Accomplishments

In FY 09 and 10, a total of $23.51 million was provided to nearly 2.2 million Maryland households for direct rate relief ($6.56 million in FY 09 and $16.95 million in FY 10.) With a population of nearly 5.7 million people, that averages out to $0.17 per person per month, or $2.06 per year.

MEA State Energy Investment Fund Accomplishments FY09 and FY10

APPENDIX: How Projected Results Were Calculated

[1] Savings equivalent to energy consumption of X number of MD homes per year:

Residential average electricity use in Maryland per household is 12.4 MWh/ year.
Source: http://tonto.eia.doe.gov/ask/electricity_faqs.asp#home_consumption
Residential average natural gas use in Maryland is 0.07676 mmcf/ year.
Source: http://www.eia.gov/oil_gas/natural_gas/info_glance/natural_gas.html

[2] Annual cost savings:

In Maryland, residential average cost per MWh is $150 and per MMCF of natural gas is $13,740. Commercial average cost per MWH is $120 and per mmcf of natural gas is $11,130. Average cost per gallon of propane is $2.23, per gallon of gas is $2.44 and per gallon of fuel oil is $2.58. Source: http://www.eia.doe.gov/

[3] Carbon dioxide emissions avoided:

The annual carbon dioxide emissions rate in Maryland is 0.5156 metric tons per MWh. Source: Maryland Department of Environment, using PJM data.
The rate for natural gas is 54.69 metric tons per mmcf and for propane is 0.0057 metric tons per gallon.
Source: http://www.eia.doe.gov/oiaf/1605/coefficients.html
The rate for gas is 0.0089 metric tons per gallon and for fuel oil is .0101 metric tons per gallon.
Source: http://www.epa.gov/cleanenergy/energy-resources/refs.htm

[4] Equivalent to cars of the road:

The average car emits 5.19 metric tons of CO2 per year. Source:
http://www.epa.gov/oms/consumer/f00013.htm